The Effect of Management Accounting Information Systems and Internal Business Process on the Performance of MSME's in Pasuruan

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Abstrak: This study aims to determine the effect of management accounting information systems and internal business processes on the performance of micro, small and medium enterprises in Pasuruan. The performance of MSMEs in this study is seen in terms of strategic performance, administrative performance and operational performance as an endogenous variable. Exogenous variables in this study include management accounting information systems and internal business process. Management accounting information systems are seen through several things related to broad scope information, timelines, aggregation and integration, while internal business processes is measured based on several things related to the innovation process, operational processes and post-sales service. In this study, micro, small and medium enterprises with certain criteria in Pasuruan were the objects of research, namely as many as 112 MSMEs using the purposive sampling method. The data analysis used in this research is Structural Equation Modeling (SEM) with a real level of 5%. Based on the results of the analysis, it appears that the internal process business and management accounting information systems has a significant effect.

Keywords: *accounting management information systems, internal process business, MSME's, SEM*

INTRODUCTION

Micro, Small and Medium Enterprises (MSMEs) are the backbone of the national economy as well as the spearhead of domestic economic turnover. As the national backbone, MSMEs contribute to economic growth, create jobs and absorb labor. Therefore, the development of MSMEs has great potential in improving people's welfare and economic growth. To be able to survive in facing challenges, MSMEs must be able to compete and always innovate. Some of the challenges associated with MSMEs during a pandemic include disruption in logistics distribution due to the large-scale social restrictions (PSBB), decreased market demand and decreased income. In addition, the challenges faced by MSMEs both under normal conditions and during a pandemic are limited access to productive resources such as capital, technology, information and markets.

The problem of limited access, especially capital obtained through credit, is not only faced during a pandemic. This is thought to be due to the absence of information that can be used by owners, managers, potential investors and creditors in evaluating the development of MSMEs. As research conducted by Suhairi and Wahdini [1] states that the credit provider does not see the classification of the size of the business, all prospective debtors are required to provide financial reports as the basis for applying for loans. This is what underlies the importance of management accounting information systems for MSMEs.

One indicator that shows the development of a micro business is performance. The performance of MSMEs is influenced by various factors, namely external factors and internal factors. External factors include government, social and economic policies, while internal factors include human resources, finance, production and operations. Internal factors have a greater influence than external factors on the performance of MSMEs in Pasuruan City Fibriyani and Mufidah [2]. The factors that most influence the performance of

MSMEs in Pasuruan City are marketing, finance and government policies, as explained by Fibriyani and Mufidah Fibriyani and Mufidah [3].

The growth of MSMEs in Indonesia is very fast, as is the development of MSMEs in Pasuruan City. Based on information obtained from the Pasuruan City Cooperatives and UKM Service, at the end of 2018 there were 38,542 MSME players engaged in various sectors.

One of the efforts of MSMEs to manage company finances so that the company can be sustainable is the existence of a Management Accounting Information System that helps coordination, including target specifications that show the effect of segment interactions and information on decisions on the operations of all organizational sub-units. Because the availability of reliable MSME data is difficult to obtain, it is necessary to conduct a survey to obtain data related to the use of accounting information systems as research has been conducted by Rahman et al. [4].

According to Saira and Annuar [5] that AIS is a system which processes data and transactions to provide users with information. They need to plan, control and operate a business. AIS is a complete constituent that collects primary data and transforms those data into useful financial information for the policymakers (Salehi, Rostami and Mogadam, [6]. Bouwens and Abernethy ([7] said that the role of AIS on organization's success by taking into account the various dimensions of AIS on the diverse strategic directions. The role of AIS in strategic management decisions as well as the attributes of AIS on different strategic priorities. AIS is a system that utilizes the financial data of an organization blending different accounting methods and tools along with varied methods with the help of IT to track interior and exterior publishable data, financial reports and trend analysis to predict on the performance of an organization Grande, Estebanez, Colomina (2011). Hosain [9] said that accounting knowledge and record keeping performance have a strong positive correlations with organizational performance while management support has a positive but moderate relationship with the reported profitability of those SMEs. A limited studies about the role of AIS on SMEs performance Ahmad and Shbiel [10].

Internal business is one perspective in measuring non-financial performance in the balanced score card. Recently, performance measurement by emphasizing on non-financial measurement has become an important and shadowy thing to do in companies. This is a form of response to dynamic environmental changes, especially in conditions of global crisis and pandemic factors. As research conducted Basri (2013) [13] namely analyzing the influence of internal business processes which include rework, cycle and innovation on financial performance. The results of these studies indicate that rework and innovation have a positive impact on financial performance.

Internal business processes emphasize operational processes which include process efficiency, consistency and timeliness of goods / services provided to consumers. Rework or rework of a product often occurs in the production process due to irregularities in materials, machines, work operators or the work environment. The purpose of the rework is to improve the product or production process Ittner, Larcker and M. Rajan [14]. Cycle time is the length of time required in the production proceed, the length of time is caused by the processing process. If the production process does not experience obstacles, there will be time efficiency, but if there is time needed for product improvement, it will cause an increase in production time. The existence of a rework can increase cycle time and cycle length resulting in an increase in labor costs as well as raw materials and equipment David and Albright [15].

Analysis of a company's internal business processes can be done using value chain analysis. The score card in this perspective states that managers can find out how well their business is running and whether their products and or services are in accordance with customer specifications. The internal business process consists of three stages Kaplan and Norton (2000), namely: the innovation process, the operation process and the after-sales service process. To increase added value for customers, the innovation process is one of the critical processes, where the efficiency and effectiveness as well as the timeliness of this innovation process will drive cost efficiency in the process of creating added value for customers. A process innovation on the other hand refers to the new procedures, policies, organizational forms and knowledge embodied in the distribution channels, products, applications, as well as customer expectations, preferences and needs Gupta [17] it is coupled with the implementation of a new or significantly improved production or delivery method. This includes significant changes in techniques, equipment and / or software. It can substantially lead to a decreased unit costs of production or delivery, to increase quality, or to produce or deliver new or significantly improved product OECD [18]. As the research conducted by Iqra, Yahya Rashid, Basharat Naeem [19] that there must be a new work dimension that is capable of measuring

performance and quality through the process of developing new products and identifying the key factors responsible for product innovation.

The operation process is the process for creating and delivering a product/service. Activities in the operations process are divided into two parts: 1) the product manufacturing process, and 2) the product delivery process to customers. Performance measurements related to the operation process are grouped into: time, quality, and cost.

This process is a service to customers after the sale of the product/service is made. Activities that occur in this stage, for example, warranty handling and repair handling of damaged and returned goods and processing customer payments. Companies can measure whether their efforts in after-sales service have met customer expectations, by using benchmarks that are quality, cost, and time as is done in the operation process. For the cycle time, companies can use the measurement of the time from when a customer complaint is received until the complaint is resolved.

Based on research Chenhall and Morris [20] namely broad scope, timeliness, aggregation, and integration. Nazarudin and Fajry [21] stated that SIAM with a wide scope is able to provide information that is both internal and external to the organization. In carrying out their duties, managers need information that has broad and complete coverage covering economic aspects such as; GNP, total market sales, and market share as well as non-economic characteristics such as; demographic factors, technological developments, sociological changes and environmental aspects. The conceptualized timeliness in this study has two sub-dimensions, namely reporting frequency and reporting speed. Frequency is defined as how often information is provided to managers while speed is defined as the time lag between information needs and the availability of information. Information is said to be fast if it reflects current conditions and is in accordance with the manager's needs. The ability of managers to respond quickly to events is influenced by the timeline from MAS. According to Ritonga and Zainuddin [22]. Aggregation Information is a summary of information by function, time period, and decision model. Aggregation represents a volume reduction process in data. Aggregation is needed to reduce and save costs in providing accounting information.

According to Ekawati [23] the information conveyed by aggregation is in a more concise form, but still includes important things so that it does not reduce the added value of the information itself. According to Chia [24] integration information is information that reflects the coordination between one segment and another. Information that reflects the complexity between one part and another. Integration information systems include aspects such as target provisions or activities that are calculated from the interaction process between one sub-unit and another. The benefits of integrated information are felt to be important when managers are faced with situations where they have to make decisions that will have an impact on others.

Performance according to Robbins [25] is a result achieved by employees in their work according to certain criteria that apply to a job. The indicators used include; (a) Quantity: The quality of work is measured by employees' perceptions of the quality of work produced and the perfection of tasks on employee skills and abilities. (b) Quality: quality is the amount produced such as; number of units, number of completed activity cycles. (c) Punctuality: is the level of activity completed at the beginning of time which is stated from the point of coordination with the output results and maximizes the time available for other activities. (d) Effectiveness is the level of organizational resources (manpower, money, technology, raw materials) maximized with the intention of increasing the yield of each unit in the use of resources. (e) Independence is the level of an employee who will later be able to carry out his work duties. (f) Work commitment is a level where employees have a work commitment to the agency and employee responsibilities to the office.

Performance or performance is the work result that can be achieved by a person or group of people in the organization, in accordance with their respective authorities and responsibilities in order to achieve organizational goals. Performance according to Mangkunegara [26] namely work results in quality and quantity achieved by a person or organization in carrying out their duties in accordance with the responsibilities assigned to them‖. The types of performance can be categorized as: (1) Strategic Performance is a strategy in adjusting to the environment and capabilities in which an organization is located. Usually strategic policies are held by top managers because they involve strategies for dealing with external parties, and also strategic performance must be able to make a future vision of the country's macroeconomic conditions that affect the continuity of the organization; (2) Administrative Performance is an administrative structure that regulates the relationship of authority (authority) and responsibilities of people who occupy positions or work in work units within the organization. In addition, administrative performance is related to the performance of the information flow mechanism between work units within the organization, in order to

achieve work synchronization between work units; (3) Operational Performance is the effectiveness of the use of every resource used by the organization. The ability to achieve effective use of resources (capital, raw materials, technology, etc.) depends on the working human resources. In this study, the performance of SMEs seen is financial performance in the form of operational performance that is measured subjectively, namely regarding product quality, market share, capital development, increasing profit or turnover, being more careful in reading opportunities and making decisions on business activities.

According to Miles and Snow [27] subjective measurement of performance is chosen over objective measurement for several reasons. First, SMEs are often very careful and strong in maintaining information on business financial data. Therefore, subjective performance information will be easier to obtain than objective information. Second, the objective financial data of small businesses are not accurately published and sometimes unavailable, this makes it impossible to check the accuracy of reported operating performance. Third, assuming small business financial data to be reported, most of the existing data are difficult to interpret. Finally, when the company is generally in a hostile environment and performance tends to decline, a subjective assessment by comparing the performance of other similar businesses in general will be more appropriate. Operational performance seen here is about all work results obtained from all business activities in certain periods to achieve organizational or company goals Mia [28]: (a) Able to increase turnover and customers; (b) Having no trouble repaying credit; (c) Able to increase profits; (d) Capable of developing capital; (e) Be more careful in making decisions and reading opportunities; (f) Able to maintain business competition stability. So from the description above, it can be seen that the success of small and medium enterprises can be viewed from two points of view, namely an economic point of view and a social point of view. From an economic perspective, the company's success can be seen from an increase in the company's wealth outside of loans, for example: increase in profits, additional capital and other ratios. On the social side, the company's success is viewed from the existence of a going concern with the company employees.

METHOD

This study uses a quantitative approach with a survey method for data collection on micro, small and medium enterprises in the region of Pasuruan. The sampling method was purposive sampling with sampling based on certain criteria. This study involved micro, small and medium business owners as respondents. The criteria of selected micro, small and medium enterprises in this study were having employees in operations and has run it for 5 years. This study aims to analyze the effect of accounting management information system and internal process performance to the performance of micro, small and medium enterprises.

The variables in this study were classified into two variables, namely exogenous variables and endogenous variables. In this study, what acts as an exogenous variable is the management accounting information system and internal process business, while the performance of micro, small and medium enterprises (MSME) acts as an endogenous variable. Management accounting information system is formed by several indicators, namely broadscope information, timelines, aggregation and integration. For internal business process variables, it is formed through 3 indicators, namely innovation process, operational process and post-sales service. The endogenous variable in this study is the performance of MSME which is built by indicators of strategic performance, administrative performance and operational performance.

The population in this study were 933 micro, small and medium enterprises engaged in the food and beverage sector in Pasuruan. The sample method used in this study was purposive sampling with criteria of umkm operating for 5 years. Determination of the number of samples in the study using the Slovin formula: $n = N / \left(1 + N.e^2\right)$ with a value of 10%, a sample of 112 SMEs is obtained.

Management accounting information system indicators include full accounting information presenting information about total revenues, expenses, assets, both past and future in the form of budgets, selling price fixing, sales reports, expense reports, financial reports; Differential accounting information provides information about the estimated income, costs, and activities that are different if a particular action is chosen and is related to the future; Accountability accounting information contains information on income, costs, assets associated with a section / business unit from past data as an analysis of performance, generating motivation and future data for budgeting. Internal business processes are measured through the innovation process, operational innovation process, operational process and post-sales service. The analysis of management accounting information and internal business processes uses a Likert scale, which is the scoring of a number of statements in the questionnaire available in the attachment, namely: answer (a) is given a score

of 5, answer (b) is given a score of 4, answer (c) is given a score of 3 , answer (d) is given a score of 2, answer (e) is given a score of 1.

The business performance that will be studied is operational performance subjectively with the following indicators: (a) The ability of the business to increase turnover / customers is seen based on the ability to increase income standards ranging from 500,000 to 1,000,000; (b) The ability of businesses to repay credit is seen by being able to pay loan installments in the right amount and exactly every week; (c) The ability of businesses to increase profits is seen by being able to pay loan installments and savings that are paid every week; (d) The ability of businesses to develop capital is seen by being able to increase capital according to previous planning and calculations; (e) The ability of businesses to make decisions and read opportunities carefully is seen as being based on effectively deciding on the use of existing resources and being able to see situations and conditions if there are benefits for business progress; (f) The ability of businesses to maintain business competition stability is seen by being able to maintain the quality and quantity of products in order to remain reliable. As for analyzing the performance of this UKM using a Likert scale, namely the scoring of a number of statements in the questionnaire instrument available in the attachment, namely: answer (a) is given a score of 5, answer (b) is given a score of 4, answer (c) is given a score of 3, answer (d) given a score of 2, answer (e) is given a score of 1.

The data analysis used in this research is Strutural Equation Modeling (SEM). Testing using the SEM method basically consists of 2 types of tests, namely the measurement model (outer model) and structural model (inner model).

Data analysis was performed using Structural Equation Model (SEM) both in modeling and hypothesis testing. SEM is a structural equation model, namely a statistical technique that allows testing of a series of relatively complex relationships simultaneously Ferdinand [29]. In this case, the definition of complex is simultaneous models that are formed through more than one dependent variable at the same time acting as independent variables for other tiered relationships.

The first step in seeing the suitability of the model is to evaluate whether the data used can meet the SEM assumptions, namely: sample size, normality, linearity, no outliers, no multicollinearity and similarity. Then the suitability test is carried out where the cut off value is used to test whether a model is accepted or rejected, namely:

1. Chi-Square Statistics: The tested model is considered good if the Chi-Square statistical value is small. The smaller the value the better the model and it is accepted based on probability with a cut off value of p> 0.05.
2. RMSEA (The Root Mean square Error of Appoximation) : explained that the small RMSEA value or = 0.08 is an index to be accepted by a model that shows a close fit of the model based on the degrees of feed.
3. GFI (Goodness –Of-Fit- Index): is a non-statistical measure that ranges from 0 (poor fit) to 1.0 (perfect fit). High scores on this index indicate a good model fit.
4. AGFI (Adjusted Goodness-Of-Fit-IndeX): The recommended acceptance level is when AGFI has a value equal to or greater than 0.09.
5. CMIN / DF: is the minimum sample discrepancy function which is divided by degree of freedom. CMIN / DF is a chi-square statistic divided by degrees of freedom (df) so that it is called −relative. Relative values less than 2.0 or 3.0 are an indication of an acceptable fit between the model and data.
6. TLI (Tucker Lewis Index): is an incremental index that compares a tested model with a base line model, where the recommended value as the accepted basis for a model is ≥ 0.95 and a value close to one indicates a very good fit.
7. CFI (Comparative Fit Index): Range of 0-1 where closer to 1 indicates a high level of a very good fit.

Thus the indices used to test the feasibility of the model are as follows:

Table 1. Goodness of Fit Criteria

No	Criteria	Cut of Value
1	χ^2 Statistics	Small Value Expected
2	Significant Probability	≥ 0.05
3	RMSEA	≤ 0.08
4	GFI	≥ 0.90
5	AGFI	≥ 0.90
6	CMIN/DF	≤ 2.00
7	TLI	≥ 0.95
8	CFI	≥ 0.95

After estimating the model, the residuals must be of small value or close to zero and the frequency distribution of the residuals must be symmetrical. A good model has a small standardized residual variance. The value 1.96 is statistically significant at the 5% level and indicates a substantial prediction error for the pair of indicators. To make it easier to make modifications, a modification index calculated by the program can be used for each relationship between the estimated variables.
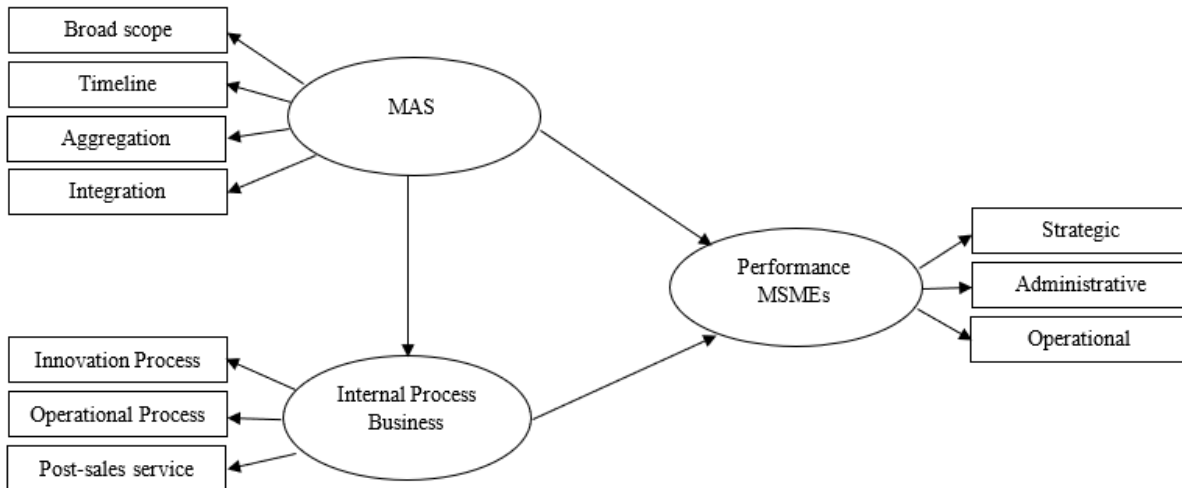

Figure 1. Conceptual Framework

Research Hypothesis
H1   : Does SIAM affect the performance of MSMEs in Pasuruan ?
H2   : Does Internal Process Business affect the performance of MSMEs in Pasuruan ?
H3   : Does SIAM affect the internal process business of MSMEs in Pasuruan ?

RESULT AND DISCUSSION

Respondents in this study were 112 MSMEs in the food and beverage sector in Pasuruan. In this analysis, the data depicted descriptively related to the variables studied.

Table 2 Characteristics of Respondents by Gender

No	Gender	Total (Person)	Percentage
1	Male	61	54%
2	Female	51	46%
	Total	112	100%

It can be seen in the table above that MSME owners in Pasuruan are dominated by men with a percentage of 54% while female MSME owners are 46%.

Table 3 Characteristics of Respondents by Age

No	Age	Total (Person)	Percentage
1	< 21	2	1.80%
2	21 – 30	23	20.5%
3	31 – 40	45	40.2%
4	41 – 50	38	33.9%
5	> 50	3	2.7%
	Total	112	100%

Table 3 shows that the majority of MSME actors in Pasuruan are aged 31-40 years, namely 40.2%.

Table 4 Characteristics of Respondent by Level of Education

No	Level of Education	Total (Person)	Percentage
1	No School / Graduated from Elementary School	5	4.50%
2	Junior High School	42	37.5%
3	Senior High School	55	49.1%
4	College	10	8.9%
	Total	112	100%

Based on table 4, it is known that the majority of MSME owners in Pasuruan are high school graduated with a percentage of 49.1%, junior high school graduated 37.5%, elementary school graduated and / or not taking formal education by 4.5% and college graduates by 8.9% so it can be said that the education level of MSMEs in Pasuruan are middle to lower (lower that Senior High School).

The data was analyzed by using AMOS statistical software. For checking of reliability and validity measurement model was used and structure model was used to test the hypotheses of the study.

Assessment of Measurement Model

Measurement model assessment was conducted in this study to assess the validity and internal consistency among the collected data. In this study, the result of the reliability shows that all the variables are reliable with the Cronbach Alpha for SIAM = 0.811, Internal Process Business = 0.845 and Performance of MSMEs = 0.801. The summary of the result of the alpha, CR and AVE is provided in Table 5.

Table 5 Values of alpha, CR and AVE

Construct	Alpha	CR	AVE
MAS	0.811	0.870	0.576
Internal Process Business	0.845	0.890	0.619
Performance MSMEs	0.801	0.866	0.619

In Structural Equation Modeling (SEM) modeling begins with a feasibility test of the model using several criteria. Following are the results of calculating the goodness of fit indices of the proposed structural model.

Table 6. Goodness of fit

Criteria	Cut-off	Value	Information
Chi-square	Small Value Expected	65.308	Fitted Model
Cmin/df	≤ 2.00	1.451	Fitted Model
GFI	≥ 0.90	0.942	Fitted Model
RMSEA	≤ 0.08	0.055	Fitted Model
TLI	≥ 0.94	0.919	Fitted Model
CFI	≥ 0.95	0.953	Fitted Model

Based on the calculation results in Table 6, it appears that all the criteria can be met so that it can be said that the proposed structural model is feasible or appropriate. For further testing the hypothesis by looking at the loading factor and the significance value of the variables connected.

Table 7. *Loading Factor* dan P-Value

Variable	Loading Factor	P-value	Information
MAS → Performance MSMEs	0.851	0.000	H1 Accepted
Internal P. Business → Performance MSMEs	0.752	0.000	H2 Accepted
MAS → Internal Process Business	0.628	0.004	H3 Accepted

The firm aim of this study was to investigate the effect of management accounting information system and internal business processes on performance of MSMEs in Pasuruan. In the process data analysis, this study found that management accounting information system has significant and positive effect on

performance of MSMEs in Pasuruan. H1 was accepted on basis of analysis because p-value 0.000 was lower than the standard value 0.05. Findings of current study are in Table 7 with the findings of Prihastiwi and Solihin [30] and Harash et. al. [31]. And then the result of analysis illustrated that internal business processes also has positively affect MSMEs performance in Pasuruan. H2 also accepted and supported by analysis because p-value was 0.000 that illustrated H2 was accepted at 1% level of significance. Additionally, the the result of analysis illustrated that management accounting information system also has positively affect internal business processes of MSME in Pasuruan. H3 also accepted and supported by analysis because p-value was 0.004 that illustrated H3 was accepted at 1% level of significance

CONCLUSION

In concluding to this study, three research hypotheses were formulated for the accomplishment of the objectives in this study. Specially, objective one aimed at determining the relationship between management accounting information system, internal business processes and performance of MSME in Pasuruan. The result of hypotheses H1, H2 and H3 highlighted that there is a positive relationship between management accounting information system, internal business processes and performance of MSME in Pasuruan.

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